ABSTRACT

The long bones obtain their major blood supply during their period of growth and during early stages of ossification from the nutrient arteries. The nutrient foramina are the largest of the foramina in the shaft of long bones through which the nutrient arteries enter the bone. A knowledge of the number and position of nutrient foramina in the shaft of long bones of upper and lower limbs is necessary during surgical procedures to avoid injury to the nutrient artery. The present study was a cross-sectional study done on 35 bones each of humerus, radius, ulna, femur, tibia and fibula. The bones were examined for the number, position, location, size and direction of the nutrient foramina. Radii and tibiae showed only a single foramen in the bones, while double foramina were present in the humeri, ulnae, femora & fibulae, and triple foramina were present in three femora. Majority of the nutrient foramina were present in the middle third of the shaft in humerus, ulna, femur & fibula, and in the upper third in radius and tibia. Upper limb long bones had the majority of the foramina in the anterior aspect of the bones, while in the lower limb long bones they were in the posterior aspect. Dominant foramina were seen more in the lower limb bones. All the bones except a few fibulae had their foramina directed away from the growing end. The information on the morphology of nutrient foramina may contribute towards effective surgical and medico-legal procedures.

KEYWORDS

Nutrient foramen, Morphology of nutrient foramen, Shaft of long bones, Foraminal index, Nutrient artery, Blood supply of bones.